CHELSEA CREEK COMMUNITY BASED COMPARATIVE RISK ASSESSMENT
CHAPTER 3: OPEN AND GREEN SPACE

1. Overview of Open and Green Space in the Chelsea Creek Community

Open and green space play a critical role in the vitality, livability, and environment of cities. There are many different types of open and green space, each with particular benefits. Open space such as plazas or squares provide residents the opportunity to gather and socialize. Playgrounds and ballparks provide a place for recreational activities. Community gardens can replace the negative impacts of vacant lots with productive, vital spaces and build personal investment in a neighborhood. In addition to these direct benefits, the availability of recreational space has been correlated with physical health and reduced obesity. Providing youth the option of outdoor recreation has been shown to reduce juvenile crime in cities, and exposure to nature on open and green space has been found to increase attention span and improve brain functions of children and adults (Wells, 2000). Green space, or areas planted with grass, plants, and trees, also offers environmental and public health benefits. Green space improves the air quality of a community and provides environmental benefits. Trees provide natural cooling which reduces the production of ozone, a major air pollutant in cities, and block dust dispersion. Trees also remove carbon dioxide from the air which helps counteract the greenhouse effect and global climate change (Nowak, 1999). Some areas can be considered both open and green space, for example, some parks offer a place to congregate as well as recreational and environmental benefits. However, the distinction between open and green space and recreational and non-recreational space is important because not all areas that are designated as open or green space provide the same benefits.

In spite of the importance of open and green space to the quality of life of residents, there are no federal regulations mandating preservation of open space. At the state level, an article in the Massachusetts Constitution prohibits the transfer of public open space for other uses unless it is approved by two-thirds of the state legislature, but this has not prevented the loss of open space. For example, the City of Chelsea used two of the city's largest parks for school construction in 1994. Some Massachusetts communities such as Boston, Cambridge, and Brookline have detailed open space plans which set priorities for green space preservation and maintenance. Open space planning identifies open space preservation objectives and potential projects, and the process of open space planning also makes cities eligible for State and Federal funding. However, the planning process does not ensure implementation of projects. The City of Chelsea conducted open space planning in 1994. The plan outlines 32 different rehabilitation, development, and maintenance projects as part of a 5-year projection, but most of these goals were not achieved. The plan is currently being updated and should be available in Spring 2003.

East Boston open space planning is included in the City of Boston report, "Open Space Plan 2002-2006: Renewing the Legacy" which was released by the City of Boston Parks and Recreation Department in Spring 2002.

Both Chelsea and East Boston have a shortage of quality open and green space and have lost parks and playgrounds because of the construction of new schools. The Chelsea Creek is a unique natural resource for both Chelsea and East Boston, and one that could provide recreational and educational benefit to the community, but there is currently no access or recreational space available to residents along the Creek. The area along the Creek is a Designated Port Area (DPA), meaning that development along the Creek must be consistent with water-related and port uses which tend primarily to be industrial. Massachusetts Coastal Zone Management allows some non-water dependent industries to be sited along a DPA, as long as that activity does not impair the long-term water dependent usage of the Creek or industrial port activity, but recreational uses have not traditionally been allowed. Currently, the Creek is lined with industries including oil storage depots, a shipyard, a salt storage pile, and large scale parking or car storage lots.

2. Review of Existing Chelsea and East Boston Open / Green Space

The East Boston community lost a large portion of open and green space when Logan Airport was expanded in the 1960s. Further expansion in 1974 resulted in the filling of 234 acres of the Bird Island Flats. In recent years, the development of Piers Park, Harbor Walk, the East Boston Greenway, and four public school yards have provided some open space, but not all open space has public access or adequate facilities. There are several different accounts of the acreage of open space in East Boston; the difference may be attributable to different definitions of what is considered open space. In fact, there is not a consistent definition of open and / or green space, so different organizations and government agencies have their own definitions. For example, the Boston Parks and Recreational Department figure is 9.6 acres of open space per 1000 residents. The Boston Foundation report, "The Wisdom of Our Choices: Boston's Indicators of Progress, Change and Sustainability 2000" estimates that East Boston has 13 acres of open space per 1000 residents.

For the purposes of this report, several different categories of land use will be calculated: total open space, total green space, and total recreational space. A full listing of open, green, and recreational space including the total acreage and a description of facilities is provided in Tables 7 and 8. The locations of these areas are shown on maps included in Section 5 of this chapter. Open space is defined as areas of land with no buildings. Recreational space includes areas with playgrounds, ball parks or courts, or walking and riding paths as well as areas which have been set aside for passive activities such as sitting and relaxing. Both open and recreational space may be green space as well; the designation of "green" in Tables 7 and 8 means that an area has some trees or grass. Areas that are privately owned or do not provide benefits to the community are not included in this count.

Table 7 - Open Space in East Boston

Recreational Facilities Key:
1- passive space 2- playground 3- ballfields / court 4-walking or biking path 5-garden 6-other

Name	Acres	Green Space	Recreational Facilities	Comments
Alighieri School	0.51	no	23	School property
American Legion Playground	3.4	yes	23	
Bayswater Street	1.7	yes		
Belle Isle Fish Company	1.7	no		Contaminated site
Belle Isle Marsh	143	yes	14	
Bennington Street Cemetery	3.6	yes		Cemetery - No public access
Brophy Park	0.69	yes	1	
Central Square	0.9	yes	1	
Condor Street Overlook	11.4	no		Underwater - No public access
Condor Street Urban Wild	4.5	yes		Site will be developed into a park but is currently not accessible to public.
Constitution Beach	25.4	yes	36	
Cuneo Park (Saratoga St.)	0.23	no	2	
Decatur & Meridien Park	0.3	yes		
Dom Savio Athletic Field	3.1	yes	3	Private property - not included in calculation of recreational open space
Don Orione	4.7	yes		
Eagle Hill Memorial Park Garden	0.2	yes	5	
East Boston Greenway	3.2	yes	4	
East Boston High School	1.8	yes	1	School property
East Boston Memorial Park	17.7	yes	1234	Adjacent to highway and airport
Golden Stairs	0.3	yes		
London Street Play Area (Decatur Street)	0.13	yes	23	

Table 7 Continued				
LoPresti Park	10.7	no	23	
Marginal Street Gardens	0.26	yes	5	
Maverick Square	4.4	no		Not included in open space calculation
McLean Playground	0.43	no	13	
McKay School	1.7	no	23	School property
Noyes Playground	8.3	yes	23	
O Donnell School	0.63	no	23	School property
Otis Elementary School	0.78	no	3	School property
Paris Street Playground	2.3	no	23	
Piers Park	16	yes	26	
Porzio Park	2.4	no	23	
Prescott Square	0.28	no	1	
Putnam Square	0.3	yes	1	
Suffolk Downs Infield	28.3	no		Not included in open space calculation
Sumner and Lamson Street Playground	0.48	no	2	
Temple Ohabei Shalom Cemetery	2.3	yes		Cemetery - no public access
Umana Barnes School Park	2.4	no	23	
Wood Island Bay Marsh	68.1	yes		Private property - not accessible to public

Based on this table, the total open space in East Boston is **8.3 acres per 1000 residents.** This is lower than the City of Boston estimate because certain sites were not included. For example, the Suffolk Downs Infield and Maverick Square were removed from the open space list because they are heavily trafficked areas which do not provide open space benefits to the public. The total green space in East Boston is **4.4 acres per 1000 residents**, approximately half of the open space because much of the open space is paved without grass or trees. Recreational space is slightly lower, at **3.2 acres per 1000 residents**. While there are benefits of non-recreational open space, areas such as the Wood Island Bay Marsh or the cemeteries are not accessible to the public or appropriate for community use.

Chelsea is surrounded by potential waterfront open space areas, but much of that land falls

within the Designated Port Area and has no public access. The City of Chelsea has 18 parks, including school playgrounds. The parks give Chelsea approximately 51 acres of open space for 35,000 resident. This is equal to **1.5 acres per 1,000 residents, 1.2 acres of which is green space.** However, when only recreational space with easy public access is included in this calculation, the figure becomes **1.3 acres per 1000 residents** (see Table 8).

Table 8 - Open Space in Chelsea

Recreational Facilities Key:
1- passive space 2- playground 3- ballfields / court 4-walking or biking path 5-garden 6-other

Name	Acres	Green?	Recreational Facilities	Comments
Bellingham Hill Park	0.38	yes	12	
Bosson Park	0.73		2	Under construction
Carter Park / High School	3.9	yes	23	School property
Dever Park	0.28	yes	23	
Eden Park	0.22	yes	2	
Garden Cemetery	3.14	yes		
Highland Park	3.33	yes	123	
Malone Park	1.46	yes	1	
Mary C. O'Burke Elementary School	4.9	yes	23	School property
Mary O'Malley Park	19	yes	26	
Memorial Stadium	7.39	yes	34	Part of High School Complex
Polonia Park	0.39	yes	2	
Quigley Park	0.55	yes	23	
Shurtleff School	0.14	no	2	School property
Voke Park	3.27	yes	23	
Washington Park	1.68	yes	1	
Williams Middle School		no	3	School property
Zaitz O'Neill Tot Lot	0.09	no	2	

Development and preservation of open space and parks is often limited by the availability of land. Vacant lots are an opportunity to add open space and take advantage of an underutilized resource. Vacant lots often represent negative impacts to a community; they attract illegal waste dumping and activity, but can potentially be converted to community

gardens or tot lots, adding much needed open or recreational space to dense urban areas. Approximately 121 vacant lots have been identified in Chelsea (Chelsea Green Space, 2001). An inventory of these sites found many to be overgrown and littered with trash. Others may be contaminated with industrial waste or lead and may require some treatment before the land can be safely used.
Soil sampling is a tool that can be used to determine whether or not a vacant lot is contaminated.

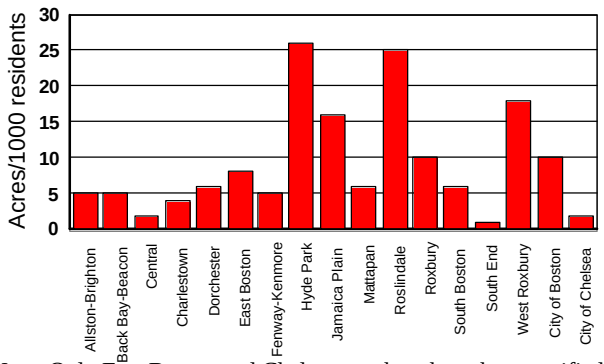
More information about the vacant lots including whether the owner is known, if taxes are paid on the property, and if contamination is likely to exist should be collected so that the potential for conversion of these lots into useable public space can be assessed. The City of Chelsea currently has a program to encourage the owners of abandoned houses to rehabilitate property or turn the lots over to receivership. A similar program for abandoned vacant lots could be implemented to return these lots to productive use.

Vacant lots have not been identified in East Boston; a similar study should be conducted in order to determine the potential for green space development in East Boston.

3. Analysis of Existing Open Space Data

The definition of open and green space typically includes areas that would be accessible to residents such as recreational space, and conservation land, as well as some areas that might not be accessible to the public such as parkways (green areas along roads) and cemeteries. As calculated above and shown in Figure 2, Chelsea and East Boston have less open space per 1000 residents than many other Boston area neighborhoods. The area of developed park land, as defined by the availability of public facilities such as playground equipment or ball fields is much lower than the National Recreation and Park Association recommendation of 6 to 10.5 acres per 1000 residents.

Figure 2 Open Space in the Boston Area



Note: Only East Boston and Chelsea numbers have been verified

The numbers, while useful for comparison, do not provide information about the location, quality, and public access to open and green space and the level of maintenance invested. The 1994 survey of Chelsea residents conducted for the Open Space Plan (City of Chelsea, 1994) as well as the survey conducted as part of the CRA found that many residents were dissatisfied with the current parks. Equipment maintenance and safety were the two primary issues of concern. Residents mentioned that drug and gang activity kept them from using the parks. Others noted that the locations of the parks made it difficult for residents to

use them. Mapping shows that the existing parks are not evenly distributed throughout the community. As shown on the attached map, some of the most densely populated residential areas close to the Creek do not have parks.

4. Potential Concerns for Public Health and the Environment

As the natural resources available to Chelsea and East Boston are developed or dedicated to industrial uses, the benefits associated with open and green space are lost. The designated port area limitations have not allowed community residents to use or enjoy the Chelsea Creek as a natural resource; instead the communities are surrounded by industrial and commercial facilities which add to the degradation of water and air quality and contribute to public health problems including asthma and respiratory disease (see previous chapters).

It should also be noted that many of the parks and ball fields of Chelsea and East Boston are located close to major roadways or the airport. A recent study suggests that children who participate in sports in heavily polluted communities have a higher chance of developing asthma (McConnell, et al., 2002).

The reduction in green space in East Boston and Chelsea may have impacts on the immediate environment; trees have been found to reduce the temperature, noise, and pollution levels of urban settings. Areas planted with trees and grass may also improve water quality by filtering pollutants that run off of paved areas before they can reach the Creek. The opportunity to interact with nature through open space, urban gardens, or parks improves a neighborhood's image and provides an opportunity for community interactions and investment. Participation in the community reduces crime by increasing the "willingness to intervene on behalf of the common good" (Sampson, et al., 1997) and by providing opportunities for youth activities. Individual stress, created by the impacts of urban noise and pace, are mitigated through interactions with green space. Rates of cardiovascular disease, the highest cause of death among the elderly, can be lowered through walking or other recreational activities; green and open space provides the opportunity for these activities.

These intangible benefits have been quantified through psychological profiles and studies of real estate value. A study of apartment residents found that satisfaction with a community was correlated to proximity to trees, green space, and areas for walking and recreation. Studies have shown that urban property is more valuable when located close to city parks or greenways (Phillips, 2000).

5. GIS Maps of Open Space Data

Note: There are maps associated with this chapter: download the maps entitled:
- Official Open Space as Defined By Boston Parks Dept. and Chelsea Dept. of Public Works
- Open, Green and Recreational Space

The attached maps show the locations of open space listed in Table 7 and 8. Open space without public access, parks with facilities such as ball parks, and tot lots with playground equipment are color coded to clearly show the availability of facilities to different neighborhoods.

6. Current Open Space Projects and Activities

Many organizations including Chelsea Green Space and Recreation Committee (Green Space), Neighborhood of Affordable Housing (NOAH), the City of Boston, Boston Natural Areas Network, MassPort, City of Chelsea, Chelsea Creek Action Group, East Boston Greenways, and the Urban Ecology Institute have been actively working to improve and augment open space in the two communities. Current projects include the following:

Condor Street Urban Wild The conversion of this parcel of contaminated land into useable park lands has been a goal of East Boston and Chelsea residents for over five years, but the funds needed to conduct remediation and create a safe recreation area were not available until this year. Development of this site is scheduled for 2003.

Mill Creek Residents are working to revitalize a salt marsh and improve access to the marsh for recreation and environmental education. In addition to marsh revitalization, a community visioning process for the adjacent 38 acre commercial site, slated for redevelopment, has been conducted. The community envisions a waterfront park with walkways and bike paths along the Mill Creek.

Conrail Site A commitment has been made to create a waterfront pocket park adjacent to the Creek and abutting a recent development on a former oil tank farm.

Community Gardens There are two community gardens in the City of Chelsea and two in East Boston. These locales provide gardening areas for numerous families and youth groups.

Vacant Land Study A study of all of Chelsea's vacant lots was conducted. The purpose was to provide an inventory of all lots that could be developed into pocket parks, sidelots, and/or community gardens. Work is continuing to identify which sites are best for potential open space redevelopment.

Tree Inventory A citywide inventory of all sidewalk trees in Chelsea has enabled the city to apply for Tree City USA status that would provide Chelsea with monies annually for new trees, and tree replacements. Although Chelsea has not yet been named a Tree City, more than 30 trees have been replaced or added to the city's sidewalks.

7. Open Space Concerns for Chelsea and East Boston

Public access to open and green space for Chelsea and East Boston residents is a primary concern. Potential sites for open space development are vacant lots which may require intensive sampling and clean-up efforts. The conversion of vacant lots to small local pocket parks and community gardens could provide residents from different neighborhoods access to recreation while removing a source of negative impacts, but will require technical and financial resources.

The Creek and the soil may also be contaminated; past oil spills must be cleaned up and other sources of pollution that exist must be mitigated before this natural resource can safely be utilized (see previous chapters). The other restraint which prevents the community from using the Creek is its status as a Designated Port Area (DPA) which mandates that development along the Creek be consistent with water-related and port uses. The definition and regulation of a DPA make it difficult to convert designated areas for public access, but access to the Creek would provide numerous benefits to the community.

8. Recommendations for Open and Green Space

Community Actions

- Conduct a vacant lot inventory of East Boston and identify abandoned properties and tax lien lots to determine the potential for increasing open and green space.
- Work with City government to implement clean-up and conversion of vacant lots and identification of abandoned buildings and property that could be converted to open space.
- Continue to work to improve community access to Chelsea and Mill Creek.

Longer-Term Priorities

- Work with City government to produce new open space plans which include priority actions for increased open and green space.
- Work with City government to block any more losses of public open space for other uses.

9. Contact List

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National Recreation and Park Association: http://www.nrpa.org
Trust for Public Land: http://www.tpl.org
The Urban Parks Institute: http://pps.org/upo

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